**CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM**
**maintained by the**
**CALIFORNIA DEPARTMENT OF FISH AND GAME**
**and supported by the**
**CALIFORNIA INTERAGENCY WILDLIFE TASK GROUP**
**Database Version 8.1 (2005)**

A040 Red-legged Frog Rana aurora
Family: Ranidae Order: Anura Class: Amphibia

Written by: S. Morey, H. Basey
Reviewed by: T. Papenfuss
Edited by: R. Duke
Updated by: CWHR Program Staff, September 1999

## DISTRIBUTION, ABUNDANCE, AND SEASONALITY

The red-legged frog inhabits quiet pools of streams, marshes, and occasionally ponds. Occurs west of the Sierra-Cascade crest and along the Coast Ranges the entire length of the state (Stebbins 1985), usually below 1200 m (3936 ft). Uncommon in Sierra-Cascade portion of range, uncommon to common elsewhere.

## SPECIFIC HABITAT REQUIREMENTS

Feeding: Highly variable. Adults take aquatic and terrestrial insects and crustaceans and snails (Stebbins 1951), as well as worms, fish, tadpoles, smaller frogs, and small mammals. (Dickerson 1906, Baldwin and Stanford 1987). Aquatic larvae are mostly herbivorous.

Cover: Highly aquatic. Prefers shorelines with extensive vegetation. Usually escapes to water 1 m (3 ft) deep or more, at the bottom of pools.

Reproduction: Eggs are deposited in permanent pools attached to emergent vegetation (Stebbins 1954). Northern red-legged frog (R. a. aurora) eggs are typically submerged whereas California red-legged frog (R. a. draytonii) eggs are in contact with waters surface (Hayes and Kremples 1986).

Water: Requires permanent or nearly permanent pools for larval development, which takes 11 to 20 weeks (Storer 1925, Calef 1973). Intermittent streams must retain surface water in pools year-round for frog survival (Jennings et al. 1993). May require rains for dispersal. Individuals have been found considerable distances from breeding sites on rainy nights. Water salinity may have an important influence on embryo survival (Jennings and Hayes 1989).

Pattern: Occurs in the vicinity of quiet, permanent pools of streams, marshes, and occasionally ponds.

## SPECIES LIFE HISTORY

Activity Patterns: Active all year coastally, but with periods of inactivity (late summer to early winter) elsewhere.

Seasonal Movements/Migration: A highly aquatic species with little movement away from streamside habitats. Individuals are occasionally found on roads at night during winter and spring rains. The nature of these movements is unknown.

Home Range: Unknown; possibly large for dispersing juveniles but probably smaller for adults.

Territory: Males probably defend a space for sexual display during the breeding season, as in other ranids (Martof 1953, Emlen 1968).

Reproduction: Breeds January to July (peak in February) in the south, and March to July in the north. Females lay 750 to 4000 eggs in clusters up to 10 in across, attached to vegetation 7 to 15 cm (2 to 6 in) below the surface (Stebbins 1954). Tadpoles require 11 to 20 weeks to reach metamorphosis (Stebbins 1951, Calef 1973).

Niche: Probably subject to predation by aquatic invertebrates and vertebrates such as fishes, other amphibians, snakes, and occasionally birds and mammals, during all life history stages.

General Comments: Sierra populations are highly restricted and consist of small numbers of individuals. Human activities that result in habitat destruction and/or the introduction of exotic competitors such as bullfrogs and green sunfish may have a negative effect on these few existing Sierra populations (Moyle 1973).

REFERENCES


Baldwin, K. S. and R. A. Stanford. 1987. Life history notes: Ambystoma tigrinum californiense (California tiger salamander): predation. Herpetological Review 18 (2): 33.

Calef, G. W. 1973. Natural mortality of tadpoles in a population of Rana aurora. Ecology 54:741-758.

Dickerson, M. C. 1906. The frog book. Doubleday, New York. 253pp.

Emlen, S. T. 1968. Territoriality in the bullfrog, Rana catesbeiana. Copeia 1968:240-243.

Hayes, M. P. and Kremples. 1986. Vocal sac variation among frogs of the genus Rana from western North America. Copeia 4: 927-936.

Hayes, M. P. and M. R. Jennings. 1988. Habitat correlates of distribution of the California red-legged frog (Rana aurora draytonii) and the foothill yellow-legged frog (Rana boylii): implications for management. Pages 144-158 in R. C. Szaro, K. E. Severson and D. R. Patton, eds. Management of amphibians, reptiles, and small mammals in North America. Gen. Tech. Rep. RM-166. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

Jennings, M. R. and M. P. Hayes. 1989. Final report of the status of the California red-legged frog (Rana aurora draytonii) in the Pescadero Marsh Natural Preserve. Contract No. 4-823-9018. California Academy of Sciences, pp. 56.

Jennings, M. R., M. P. Hayes and D. C. Holland. 1993. A petition to the U. S. Fish and Wildlife Service to place the California Red-legged Frog (Rana aurora draytonii) and the Western Pond Turtle (Clemmys marmorata) on the list of endangered and threatened wildlife and plants.

Martof, B. S. 1953. Territoriality in the green frog, Rana clamitans. Ecology 34:165-174.

Moyle, P. B. 1973. Effects of introduced bullfrogs, Rana catesbeiana, on the native frogs of the San Joaquin Valley, California. Copeia 1973:18-22.

Stebbins, R. C. 1951. Amphibians of western North America. Univ. California Press, Berkeley. 538 pp.

Stebbins, R. C. 1954. Amphibians and reptiles of western North America. McGraw-Hill, New York. 536pp.

Stebbins, R. C. 1985. A field guide to western reptiles and amphibians. 2nd ed., revised. Houghton Mifflin, Boston. 336pp.

Storer, T. I. 1925. A synopsis of the Amphibia of California. Univ. Calif. Publ. Zool. 27:1-342.



Species notes are designed to support the species-habitat relationships database models in the California Wildlife Habitat Relationships (CWHR) System and are also published within the current version of the CWHR software. Please cite as: California Department of Fish and Game. California Interagency Wildlife Task Group. 2005. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California.